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Seminar for lawyers on Development of
Environmental Protection Legislation
in the ECA region

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O/NAIROBI

ENVIRONMENTAL PROTECTION LEGISLATION NEEDS FOR AFRICA

I. INTRODUCTION

Environmental Legislation and Law-making

1. In the process of tackling environmental problems, environmental laws and legislation have become universally accepted as one of the tools used for environment l management in both de eloping and indus' ialized countries. In the majority of African countries, the present legal system as well as the majority of the laws of the countries, are a legacy of the colonial regime. It is known that the inherited lega' systems, whether anglophone, francophone or otherwise, did make provision for the conservation of forests and wildlife, the protection of water and marine resources, and the regulation of activities that may damage the health of the human environment in the country.

2. Even though such laws enacted in the pre-independence era of most African countries were not designated environmental legislation as such, the enforcement of such laws went a long way towards maintaining a good quality of the environment. For instance, one could always remember the cleaniness of rural and urban house compounds and the care with which our parents methodically removed broken bottles and empty tins from their compounds for fear of sanitary inspectors who were more dreaded than the local policemen because of the effectiveness of their fines for breaking the law against malaria control. Although these colonial laws are still in the statutes or have been superseded by improved laws, yet most African countries are still plagued with environmental health and sanitation problems as an example, almost two decades after independence. Hence one might ask, what are the needs for environmental legislation in the African continent during the 1980 decade?

3. Environmentalists cannot claim competence in formulating laws and legislation to protect the environment. Nor can the lawyers and legal draughtsmen appreciate and understand the scientific terminology in use for the protection and for the improvement of the qual ty of the environment. The purpose of this paper is to investigate common areas for discussion between lawyers and environmentalist on the promotion of legislation for the protection of the environment.

4. In this introduction, a brief description of environmental legislation and its method of functioning is essential as background information. The manual for Environmental Legislation 1/ pointed out that environmental legislation

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1/ UNEP/IALS Manual for Environmental Legislation

should be management-orientated instead of rule-orientated. Whilst rule-orientated law-making lays emphasis on prohibition, penalties as compensation for law-breaking and sanctions against abuse of the law, environmental legislation in modern jurisprudence should be based on practical incentives for the rational use and protection of environmental resources, for the prevention of environmental damage and for the promotion of environmentally-sound policy and planning for development.

5. The methodology for environmental legislation is similar to the empirical approach of science and technology. For both, a problem has to be identified, the data collected and analysed for the development of hypotheses, then a scientific principle or theory is formulated before the applied technology is selected or developed to solve the particular problem. In environmental legislation formulation, the problem definition phase asks many practical questions for data collection and recommends a model for data synthesis. The hypothesis stage is shown by the development of policy options regarding the possibility of what actions can or should be taken to solve the problem. Then a decision has to be taken on the policy option to be selected for the formulating of an effective law, which involves consultations between the decision-makers, the policy-makers, planners, government officials and managers for the selection of the best policy. Gradually, a conceptual policy model emerges with recommendations, options, strategies on the form and content of the law. The final phase is actual law-making and implementation which can involve various other activities such as drawing up rules and regulations budgeting, monitoring of implementation practices, institutional reorganization, evaluation, all directed towards an effective law enforcement.

6. Environmental legislation demands a new orientation to law-making. It requires fresh concepts, policy options and strategies for implementation that would cater for the management of future environmental problems. However, as pointed out earlier, legislation is not the critical factor for the protection of the environment in African countries. The greatest constraints to environmental care are: (i) the inadequacy of law enforcement and (ii) the lack of standards and controls for maintaining environmental quality. The political will should be encouraged for an effective system of control and enforcement of existing laws, rules and regulations to solve environmental problems.

7. The objectives of the country questionnaires sent out 2/ on environmental protection legislation, are to enable developing countries to identify priority areas requiring new or further legislation and to design new legislation to cope with future environmental problems in response to rapid socio-economic

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2/ ECU/530/L/81-83 - Survey of Environmental Legislation in the ECA region - ESCAP/UNEP Country Questionnaire as modified by ECA. November 1979.

development. It is noted that the questionnaires cover several areas for environmental protection legislation such as water and marine resources, air quality, forests, land use, tourism and so on. The existing environmental laws in selected African countries for in-depth study, would be analyzed to identify gaps for improvement or for new legislation for a better and effective law enforcement. Ultimately, this current study on environmental legislation in the Africa region should lead to the formulation of guidelines or recommendations for the evaluation of criteria for the establishment or review of environmental legislation within a country. In the rest of this paper, the criteria for environmental protection in the various areas needing legislation as outlined in the country questionnaires, are briefly discussed.

II. ENVIRONMENTAL PROTECTION LEGISLATION

Natural Resources and Wildlife Conservation

8. The environmental problems associated with the conservation of natural resources which includes wildlife, are identified as (i) deforestation through the exploitation of timber for export as round logs, sawn boards, veneer and particle board and through clearing of forested areas and woodlands for modern agricultural plantations, shifting cultivation, firewood gathering and charcoal preparation; (ii) soil deterioration through erosion, leaching or compaction to form lateritic hard pans after removal of the vegetation cover; (iii) desertification which is a terminal process of deforestation and soil deterioration resulting in land degradation and total loss of the capability of the soil to support plant life; (iv) depletion of non-renewable mineral resources such as precious metals, commercial metal ores (bauxite, rutile, iron and so on), non-metallic deposits used as fertilizers, diamond, graphite, coal and mineral oil; (v) wastage of energy especially when derived from non-renewable resources such as fossil fuel; (vi) mismanagement of exploitation of renewable resources (forests, water, crops, livestock, fishes) so that the ecological balance is upset with a loss of the capacity of the ecosystem to regenerate the resources being harnessed; (vii) threatening of wildlife species to the point at which big game mammals, rare bires, reptiles and fishes, as well as rare and endemic plants become endangered in their respective natural habitats.

9. The critical activities in the exploitation of terrestrial natural resources are identified above as requiring urgent environmental protection legislation. For deforestation, soil deterioration, desertification and land degradation, emphasis must be placed on preventive measures rather than the more costly, curative rehabilitation programmes to correct long-standing malpractices in

development strategies. Conservation policies must be clearly spelt out at the national level for better environmental management practices for saving energy and the various non-renewable resources that form the basis for economic development.

10. In law enforcement for the conservation of natural resources, emphasis should be placed on the provision of alternatives to assist the local population to maintain conservation laws. For example, to prevent deforestation whereby forest trees are cut down for firewood and charcoal making, woodlots of fast-growing trees should be provided around towns and villages and the practive of agrosylviculture should be encouraged during the fallow period in shifting cultivation. This means that the law-makers should co-ordinate with the environmentalist, the planners, policy-makers and managers of natural resources such as agriculturists, foresters, miners and so on, to make their law enforcement more effective. In this way the control of deforestation around African towns can halt the resulting soil erosion and help to contain the spread of the desertification process.

11. Other areas of ineffective law enforcement for the conservation of natural resources, are in the execution of contracts drawn up for timber exploitation, commercial fishing and mining concessions. In most cases, the environmental protection component is written into the contract but the enforcement is lacking or extremely inefficiently executed by the department concerned. For example, in timber exploitation the depleted areas should be re-afforested with useful species and managed for several years afterwards. The forest industries company is not even interested in replanting after timber harvesting, how much less in a long-term environmental management exercise. Similarly, mining companies fail to rehabilitate mined-out areas by removing the unsightly land tippings, levelling the land and filling up ponds especially where open-cast mining is practiced, and then restoring the top soil to the exposed sub-soil for replanting of grass cover or for agricultural cultivation. The question of fishing practices will be discussed under marine resources.

12. There is no doubt that the majority of African States have laws to protect wildlife as a result of colonial legacy. What may be lacking is the scope of the legislation to cover the modern concept of wildlife conservation to include the whole range of threatened and endangered species of plants and animals including the protection of their natural habitats for their continued and undisturbed survival. Environmental legislation should regulate hunting and concentrate on wildlife poaching for sale of exotic species to zoos and for trade in animal products such as skins, trunks, tusks, stuffed curios, trophies, ivory and horn carvings. Within the framework of the law, the wild-life articles should make provision for rules to regulate the taxidermist trade

in wildlife and its numerous products. Other areas of concentration for a balanced legislation on wildlife should be the effect of predators and vermins on crops and cattle life, the traditional rights of indigenous peoples in a protected area to crop the wildlife and the effective control of hunting licenses especially to cultural societies supported by the local community.

13. Because of the gravity of the destruction of natural resources, the World Conservation Strategy 3/ has been launched this year (5 March 1980) by IUCN, UNEP and WWF in collaboration with FAO and UNESCO. Three main objectives of the strategy are:

(a) to maintain essential ecological processes and life-support systems (e.g. regeneration, life cycles, recycling of nutrients and wastes, carbon assimilation, etc.),

(b) to preserve genetic diversity (for breeding programmes, to improve crops, domesticated animals and micro-organisms used in industrial systems, and

(c) to ensure the sustainable utilization of species and ecosystems (forests, wildlife, fisheries, pastures).

It was pointed out also that since development must take place to improve economic and social welfare, conservation must be insisted on to sustain the development processes and to support the productive life systems for our survival. The strategy identifies priority conservation issues and recommends effective ways for dealing with them through the integration of conservation practices into the development process. One of the constraints to effective conservation is inadequate legislation and lack of law enforcement, hence the strategy recommends reviews of legislation for the protection of living resources especially.

14. In the conservation of natural resources, environmental legislation should cater for new kinds of resources and future needs. This is well examplified in the use and conservation of energy. At present, most developing countries have arisen to the need to protect the environment as more and more natural gas and oil are exploited, especially in off-shore areas where problems of effective law enforcement still exist. However, it should be realized that the fossil fuels (coal, gas, oil) are non-renewable sources of energy. Environmental legislation should start catering for the development and exploitation of the more lasting, renewable energy sources such as bio-gas from animal dung and

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3/ World Conservation Strategy by IUCN, UNEP and WWF. 5 March 1980.

refuse, solar energy, wind force and gas oil fuel for cars produced by fermentation of molasses residue in the sugar cane industry. These sources of energy are environmentally clean and so the lawyers should join forces with the environmentalists in promoting the development of the new sources of energy within the framework of the national economic development plans of the country.

Marine Resources and Coastal Zone Development

15. The critical areas in the development of marine resources and its coastal zones are concerned with fisheries exploitation in its widest sense, exploration and exploitation of mineral oil and manganese nodules in the sea bed, pollution of the sea and coastal areas and the conservation of living marine fauna and flora. In the exploitation of fisheries, many developing countries lack the financial resources for commercial fishing using trawlers and a refrigerated mother ship for storage and processing, including canning and labelling, of fish products such as tuna, shrimps, oysters, lobsters and herring, for export. Most coastal African countries enter into contract with many foreign trans-national fishing companies for the exploitation of their fisheries resources within their territorial waters. 4/ A critical examination of existing fishing contracts would reveal that there are many loopholes and legislative gaps enabling the foreign country to salt away our resources for next to nothing.

16. African governments must review their contracts with foreign fishing companies to ensure that the mother ship is based permanently at port in order to nmonitor its activities for the various kinds of taxes that are due for the raw material, its processing and the export of the finished products as frozen shrimps in labelled boxes or as tinned tuna. The most recent survey estimates that African countries are losing up to 50 per cent of their living marine resources through practices that are not controlled by legislation. Even now, certain areas in the West African coast have been depleted of certain species of fishes that were once abundant. Coupled with the effects of oil pollution, it would not be long before overfishing would lead to marine desertification and sterility of certain parts of the sea with absence of any living marine resource.

17. There is no dispute about the alienable right of a sovereign State to own and deploy all its natural resources - terrestrial, marine and human - for the benefit of the people. But what percentage of the cost of the finished product does a developing country receive for the exploitation of its raw materials? Over-exploitation of natural resources generally cause environmental damage whether it is done by the State by virtue of its permanent sovereignty over its natural resources, or by a foreign power for the purpose of immediate profit.

4/ Co-operation and Trade in Fish and Fish Products in the ECOWAS subregion. Joint ECA/FAO Agriculture Division Study, 1979.

Hence, developing countries must ensure a rational management and conservation of marine resources through proper legislation and adequate law enforcement.

18. Environmental legislation for the protection of the marine environment against oil pollution by ships should emphasize the establishment of oil records for the transportation of oil by the ship to indicate when and where oil tanks were washed and the quantity of oil in water during deballasting. There should also be the provision of special port facilities for the loading, discharging and bunkering of oil by ships at port. Law enforcement for marine oil pollution control should emphasize institutional arrangements and contingency plans to clear the mess since oil spills are accidental. African governments must spell out responsibility for the environmental damage caused by marine pollution by foreign ships and develop effective mechanism for the enforcement of the legislation. 5/ The Conference on the Law of the Sea should assist governments in designing the conventions, protocols and practices on marine oil pollution in order to combat any trans-boundary effects.

19. Coastal zone development in African countries is evident in the construction of new quays or the improvement of old ports, the building of jetties at wharfs, ferry landings, oil rigs for offshore drilling, oil storage and other facilities. The most common environmental problem arising from coastal zone development is sea coast erosion resulting in undermining of the shore line when it is a cliff or the formation of sand-bars across shipping lanes in harbours with movements of sandy beaches as the original wave and tidal patterns are altered by the development scheme. Hence, if the law-makers cannot provide effective legislation for the protection of coastal zones, they should support the environmentalist in convincing development planners that environmental considerations have to be taken into account to prevent and minimize environmental damage.

Human Settlements, Population Migration and Land use Planning

20. The environmental problems associated with human settlements in a developing country are a result of lack of development to provide the basic necessities of life. They are evident as poor sanitation and health standards, lack of drinking water and piped water, malnutrition and inadequate variety of food for a balanced diet, poor transportation and communications within urban areas and with the rural areas, terrible working conditions with negligible safety precaution against occupational hazards in industrial factories and inadequate leisure for the enjoyment and appreciation of cultural values in the society.

5/ Legal Aspects of Marine Environment Protection in the Gulf of Guinea and adjacent Coastal Areas. FAO/UNEP report 1979.

21. Environmental legislation per se cannot promote the economic development of a poor community but it can create a conducive atmosphere for economic development. For example, African countries have existing laws to promote good sanitation such as those against indiscriminate refuse dumping, for cleaning of compounds, for the prevention of breeding of water-borne diseases (malaria, yellow fever), for the use of latrines to prevent the spread of diarrhoeal diseases (dysentry, cholera) and schistosomiasis and for the existence of good working conditions in industry. Environmental health laws assist in the improvement of a healthy body so that increased manpower resources are available for economic development, which otherwise would have been lost as man-days through debility and sick leave. What is lacking is the effective enforcement of the existing laws; and so, environmental legislative activities should focus on clarifying policy options for effective law enforcement. In other words, what are the economic, political or socio-cultural constraints preventing post-independence effectiveness of sanitation law enforcement in Africa today?

22. Besides the sanitation and health aspects of human settlements in developing countries there is the problem of population migration from rural urban areas. Population migration is mainly responsible for the development of urban slums and shanty towns with their associated environmental health problems. Also, the rural labour force for agricultural development is lost to the urban areas where loafing, loitering and petty thieving become more prevalent. Environmental legislation can focus on the eradication of urban population problems and also help to promote the development of integrated rural programmes to create work for the rural labour force.

23. To summarize this section, effective land-use planning is the key to the solution of environmental problems of human settlements including population migration. Land-use planning involves the allocation of the land resources to its best possible use and usage, and it involves the protection of certain areas for its natural vegetation and the conservation of its wildlife species. It also involves the proper allocation of land for urban settlement, for an industrial zone, for agriculture, for transport and communications systems and for leisure and the aesthetic quality of the landscape. Environmentalists and lawyers should contribute as members of the land-use planning board to ensure proper environmental management of the land.

Pollution, Industrial and Technological Development

24. The development of industries and largescale agricultural plantations have become of immediate priority to most African Governments and so the legislation in these areas for the protection of the environment should be

critically examined. As the need and urgency for economic development increases, governments are apt to gloss over environmental consequences of such development actions. Yet it should be better understood that the extra cost caused by the environmental impact assessment (EIA) of a project, and by any modification which the EIA may suggest in the planning, design and execution of the proposed project, will generally be far below the cost of rehabilitation, reclamation or other corrective measures.

25. The major environmental problems arising from the main industries (petrochemical, engineering, building, mining, agro-based and forest) are (i) air pollution with noxious gases, dust and sprays of volatile chemicals and (ii) disposal of liquid and solid industrial waste products such as heavy metals and organic compounds into rivers. In the development of commercial agricultural plantation for cash crops (coconuts, oil palm, coffee, etc.), excess fertilizers, pesticides and herbicides are washed into the soil, streams and rivers from where they enter the food chain. The pollution of the air, water and soils through industrial and technological development is becoming acute in capital cities of some developing countries and so the relevant environmental legislation must be reviewed to improve the quality of the environment.

26. For an effective environmental legislation in the African countries environmental standards and quality controls policy have to be established, coupled with scientific monitoring of pollutants in the environment for effective law enforcement. Environmental laws must incorporate the level of pollutants permissible in the air, water and soil as well as the level of liquid and solid wastes in chemical parts per million which various industries can discharge into the environment. In order to enforce pollution laws, African governments must set up national standards laboratories for the monitoring of pollutants and contaminants in food, drugs and animal feed. This also involves the training of competent technicians to perform the complicated though routine chemical analysis of river water, the air around factories, agricultural soils, processed foods and feeds, and drugs. The standards laboratories would carry out routine monitoring tests and alert the government for appropriate law enforcement measures to be taken against the defaulters.

27. In no circumstances should African Governments allow industrial concerns, even government-owned, to monitor their own defaulting. However poor a government may be, it should never allow an industrialized country to dump its toxic wastes on any part of its domain on the guise of setting up an industry to recycle wastes. This can happen to any government in a developing country, for in their eagerness to industrialize they inadvertently import polluting industries and machineries that would never pass the environmental standards of

the country of origin, just because most developing countries have not given a high enough priority to the establishment of a quality control policy for setting up of a standards laboratory.

28. It is the role of the environmentalist to create a public awareness and consciousness about the long-term effects of current environmental neglect and the geometric accummulative effects of environmental damage resulting in increased disease and health hazards in the population. Effective pollution control demands the laws of the legal draughtsman, the setting up of institutional mechanism for monitoring, a training component, as well as a well spelt-out quality control policy for all development planning activities in the country.

Environmental Education, Training and the Legislative Process

29. Laws are designed to control the behaviour of people and law enforcement becomes effective when the community is willing to co-operate with the administrative machinery. For environmental legislation, co-operation with the administration would be difficult unless the people have a clear understanding of the need to protect the environment through programmes in environmental education.

30. Environmental education programmes are designed to create an awareness of the functioning of nature by examining first-hand the local environment itself for an understanding of scientific principles at work. In the formal education system, the study of the local environment can begin at the primary level by encouraging children to make observations in the school compound on growth and germination of bean seeds, on the life cycle of mosquitoes or chickens, on chemical changes with flower colours and common kitchen items (vinegar, salt, sugar, ashes) and so on.

31. Environmental education in the primary school as practiced by the Science Education Programme for Africa, changes the traditional teaching method of science, rural education or gardening from the traditional chalk-and-talk to a child-centred, activity-orientated learning process. The teacher's role in the class changes to that of a guide to stimulate activities for the children to find out answers for themselves to the numerous and spontaneous questions that they ask about the specimen being studied. Although this learning process is time consuming and disorientates the normal school timetable, and may be the discipline, the children enjoy the exercise and continue this kind of investigation out-of-school hours. By the time the children enter secondary school, their scientific observation and skills, their attitude to the protection of the environment and knowledge of the local environment have increased appreciably. Then further study on environmental topics such as conservation of natural resources, pollution problems and environmental damage can be appreciated.

32. Besides the formal education system, it is even more important to create an environmental consciousness in the population as a whole through the non-formal system. This involves adult education programmes through the mass media (radio, television and vernacular newspapers) and out-of-school youth training programmes in environmental education topics by means of film shows, talks and radio discussions. To mount a national programme in environmental education, the co-operation of teachers, educationists, environmentalists, lawyers, development planners and scientists will be needed. Then the work of the environmental legislators and the processes of law making and enforcement will become easier in an environmentally enlightened society.

33. Another aspect of support for the environmental legislation processes is the creation of environmental machineries to co-ordinate the various environmental activities carried out by various departments (forests, agriculture, health, industry, tourism, public works and so on) within the country. The activities of the environment co-ordination office can be directed by a national environmental committee whose membership should include high level government officials from the various ministeries/departments involved in solving environmental problems. The body should also include development planning economists and environmental legislators, some concerned citizens and representatives from private industry and corporations. This body and the technical environmental managers in the national co-ordinating office can assist the environmental legislators in designing the law and in providing advice for effective law enforcement to protect the environment.

34. Another important feature of sound environmental law may be the introduction in the national legislation of the notion of environmental impact assessment (EIA). EIA may be broadly defined as the process of evaluation of the net change, whether beneficial or detrimental, in the environment likely to be brought about directly or indirectly by a project human action or by its alternatives. Among the very many uses which can be made of this process, one may mention that the results obtained from EIA may serve as a source of information and of data which willallow the policy maker to formulate the policies better and the legal draughtsman to design the text better for the protection of the environment. For example, environmental impact assessment on a large dam construction project for agricultural irrigation would indicate the degree of increase in water-borne diseases (schistosomiasis and malaria) as the possible loss in labour work-days over the years. This can be taken into account in drafting environmental legislation for water resources development.

International conventions and protocols

35. To protect the world's environment as a whole, it is necessary for Governments to accept obligations under international agreements and to create the required national environmental machinery and other institutions to

implement such legislations. To help Governments to identify those conventions and protocols in the field of the environment to which they are entitled to become parties as requested in General Assembly resolution 3436(XXX) of 9 December 1975, UNEP is preparing a register of the important conventions adopted since 1933. The list is presented annually to the Governing Council since 1977 as document UNEP/GC/INFORMATION/5 and supplements 1, 2 and 3, pointing out the status of existing conventions with particular reference to ratifications, accessions and entry into force as well as information on draft agreements at various stages of preparation and negotiation.

36. Some of the more relevant conventions and protocols which have come into force (dates shown) relating to the African environment are listed below for information and necessary action by member States who have not yet ratified them:

- International Plant Protection Convention 6 December 1951.

- International Convention for the Prevention of Pollution of the Sea by oil, 12 May 1954, Amended 21 October 1969.

- International Convention for the Conservation of Tuna in the Atlantic, 14 May 1966.

- Convention on the Conservation of Living Resources in the South East Atlantic, 23 October 1969.

- International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualities, 29 November 1969.

- International Convention on Civil Liabilities for Oil Pollution Damage, 29 November 1969.

- Convention on wetlands of International Importance Especially as Water Fowl Habitat, 2 February 1971.

- International Convention for the Establishment of an International Fund for Compensation for Oil Pollution Damage, 18 December 1971.

- Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircrafts, 15 February 1972.

- Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 29 December 1972.

- Convention on International Trade in Endangered Species of Wild Fauna and Flora, 3 March 1973.

- Convention for the prevention of pollution by Ships, 2 November 1973.

- Protocol relating to Intervention on the High Seas in Cases of Marine Pollution by Substances other than Oil, 21 November 1973.

- Convention concerning the Protection of Workers Against Occupational Hazards in the Working Environment due to Air Pollution, Noise and Vibration, 20 June 1977.

- Convention on the Conservation of Migratory Species of Wild Animals, 23 June 1979.

III. GUIDELINES FOR ENVIRONMENTAL LEGISLATION DEVELOPMENT

37. In conclusion, it seems inadvisable to prepare a model guideline for the development of environmental legislation for all African countries because of the differences in legal systems, the socio-cultural diversity of the peoples and the policy priorities of the different governments on environmental matters. The best that one can hope for, will be a set of principles to be taken into account in the formulation of environmental legislation.

38. The set of principles have been discussed at length in this paper. They can be summarized here to highlight the guidelines as follows:

(a) The process of developing environmental legislation must be based on scientific principles; that is, problem identification and data collection, followed by development of policy options for the decision makers to formulate the law and its mode of enforcement.

(b) Environmental legislation encompassing all areas in which the protection of environment is recognized as desirable should be enacted in each country whether as a separate environmental legislation or as an environmental law component in sectoral legislation.

(c) For environmental legislation to be efficient in a country, law enforcement component must be strengthened by the provision of adequate financial resources and trained manpower to implement and police the laws, rules and regulations.

(d) For environmental legislation to be effective, various supporting measures have to be developed in the country such as, the development of environmental education and training, the establishment of national standards laboratories, the setting up of a high-level national co-ordinating office and an organ for a multi-disciplinary approach to environmental matters, where legal draughtsmen on environmental laws can work closely with professionals of other discipline for the protection of the environment.

(e) Information on environmental legislation should be publicized for meaningful participation of the public and private sectors in discussions of environmental policies, on the feasibility of the law for enforcement, and on environmental impact assessment statements on the deleterious effects of development projects.

(f) Environmental education should be developed within the formal and non-formal systems to create public awareness of environmental problems and issues and an understanding of the need for environmental protection legislation.

(g) Environmental legislation should incorporate provision for training of technicians for monitoring of pollution and assessment of environmental damage. It should also promote short-term training seminars for lawyers, planners, managers and decision-makers on environmentally sound development.

(h) According to the World Conservation Strategy, conservation legislation should provide for the planning of land and water use in order to maintain sustainable utilization and protection of living resources and of their support systems. This will involve ecosystem evaluation and environmental impact assessment of exploitation practices and pollution effects to ensure the incorporation of environmental considerations into policy-making.

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